

REMARKS

Prior to entry of this amendment, claims 1-24 are currently pending in the subject application. Claim 1 is the sole independent claim.

Applicants note with appreciation the Examiner's acceptance of the drawings filed January 26, 2004.

Applicants note with appreciation the Examiner's consideration of applicants' Information Disclosure Statement July 26, 2006.

A. Introduction

In the outstanding Office action, claim 3 is objected to claim 3 because "the order" lacks antecedent basis; claims 10, 11, 13 and 21 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention; claims 1-6, 22 and 24 were rejected under 35 U.S.C. § 102(b) as being anticipated by "Thin observation module by bound optics (TOMBO): concept and experimental verification," 10 April 2001, Vol. 40, No. 11, Applied Optics, to Tanida ("the Tanida I reference"); claims 7-9 and 23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the Tanida I reference; claims 10-14 and 16-21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the Tanida I reference in view of U.S. Patent No. 7,009,652 to Tanida et al. ("the Tanida II reference"); and claim 15 was rejected under 35 U.S.C. § 103(a) as being unpatentable over the Tanida I reference in view of "Color imaging with an integrated compound imaging system", 8 September 2003, Vol. 11, No. 18/ Optics Express, to Tanida ("the Tanida III reference").

B. Drawing Amendments

Applicants have provided herewith proposed amended drawing FIGS. 5-6, which correct drafting errors so as to make the drawing figures correspond better to the specification. In particular, drawing FIG. 5 is amended as follows: a reference number 54 and an associated lead line have been added to denote the macro-pixel array;¹ a dashed rectangle has been added enclosing, inter alia, instances of first and second refractive lenses 62 & 66, portions of substrates 68 & 70, a portion of macro-pixel array 54 and a portion of sensor array 56 corresponding to a given instance of a micro-camera;² and a reference number 50 and an associated lead line have been added to denote the micro-camera.³ FIG. 6 is amended as follows: a reference number 52 and an associated lead arrow have been added to denote another array of lenses;⁴ and the lead arrow for reference number 54 has been changed to a lead line.

Applicants respectfully submit that no new matter is introduced by the amendments to FIGS. 5-6. Support for each of the drawing amendments has been noted via footnotes in the discussion above. Applicants respectfully request favorable review and approval of the proposed amendments to the drawing figures.

C. Specification Amendments

By this document, Applicants have made clarifying changes to the specification. The changes make the description in the specification correspond better to the amended drawings.

Applicants respectfully submit that no new matter is introduced by the specification amendments. Support for each of the specification amendments is similar to that noted above for

¹ Support for this amendment can be found, e.g., in FIG. 6, and paragraphs 32, 34 and 35 of the present specification as originally filed.

² Support for this amendment can be found, e.g., in paragraph 32 of the present specification as originally filed.

³ Support for this amendment can be found, e.g., in paragraph 32 of the present specification as originally filed.

⁴ Support for this amendment can be found, e.g., in FIG. 6, and paragraph 36 of the present specification as originally filed.

the drawing amendments. Applicants respectfully request favorable review and approval of the specification amendments.

D. Objection to Claim 3

In the outstanding Office action, claim 3 is objected to because the phrase, "the order," lacks antecedent basis. Applicants appreciate the Examiner's suggestion for overcoming the objection. By this document, Applicants have amended claim 3 to adopt the Examiner's suggestion by changing "the order" to --an order--. Accordingly, Applicants traverse the objection on the basis of the above-noted amendment to claim 3 and respectfully request that the objection to claim 3 be favorably reconsidered and withdrawn.

E. Asserted Indefiniteness Rejections of Claims 10, 11, 13 and 21

In the outstanding Office action, claims 10, 11, 13 and 21 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. Specifically, the rejection states:

Claims 10 and 11 recite the limitation of "the filter". There is insufficient antecedent basis for this limitation in the claim.

Claim 13 recites the limitation of "the path". There is insufficient antecedent basis for this limitation in the claim.

Claim 21 recites the limitation of "two substrates". There is insufficient antecedent basis for this limitation in the claim.

As to claims 10-11, 13 and 21, clarifying amendments have been made by this document. As to claim 13, it has been amended to depend from claim 12, which recites "a path". It is respectfully submitted that claim 12 provides sufficient antecedent basis for "the path" recited in claim 13. In claims 10-11, "filter" has been changed to --plurality of macro-pixels". As to claim 21, it has been amended to depend from claim 17, which recites "at least two substrates". It is

respectfully submitted that claim 17 provides sufficient antecedent basis for "the at least two substrates" recited in claim 21.⁵ Accordingly, Applicants traverse the rejection on the basis of the above-noted discussion and claim amendments, and respectfully request that the rejection be favorably reconsidered and withdrawn.

F. Asserted Anticipation Rejection of Claims 1-6, 22 and 24

In the outstanding Office action, claims 1-6, 22 and 24 were rejected under 35 U.S.C. § 102(b) as being anticipated by the Tanida I reference. Applicants respectfully traverse the rejection.

Claim 1 distinguishes over the Tanida I reference at least by reciting that each macro-pixel has $m_x m_y$ micro-pixels. Between a microlens array and a photodetector array, the Tanida I reference teaches interposing a spacer having apertures formed therein. The rejection interprets the apertured spacer as corresponding to the claimed micro-pixels. This is not reasonable. First, the aperture spacer is not something that the microlens array can be described as "having." Second, the skilled artisan would have understood that the spacer has one aperture for each micro lens in the microlens array. Assuming for the sake of discussion that an aperture in the spacer could be regarded as corresponding to one of the claimed micro-pixels, there is only one aperture per microlens, whereas claim 1 recites that each macro-pixel has $m_x m_y$ micro-pixels. Hence, each macro-pixel having $m_x m_y$ micro-pixels is a feature of claim 1 that distinguishes over the Tanida I reference. Accordingly, Applicants respectfully request that the rejection of claim 1, and claims 2-6, 22 and 24 dependent thereon, be favorably reconsidered and withdrawn.

⁵ For similar reasons, claims 18 and 20 have been amended to depend from claim 17, respectively.

G. Asserted Obviousness Rejection of Claims 7-9 and 23

In the outstanding Office action, claims 7-9 and 23 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the Tanida I reference. The rejection is respectfully traversed.

Claims 7-9 and 23 ultimately depend from independent claim 1, and thus at least similarly distinguish over the Tanida I reference. The basis of how claim 1 distinguishes over the Tanida I reference has been discussed above.

The rejection presents various design-choice rationales for addressing the features of claims 7-9 and 23 not taught by the Tanida I reference. Assuming for the sake of discussion that the various design choice rationales are reasonable, none makes up for the deficiencies in the Tanida I reference noted above regarding independent claim 1, and thus regarding claims 7-9 and 23 by dependency. Accordingly, Applicants respectfully request that the rejection of claims 7-9 and 23 be favorably reconsidered and withdrawn.

H. Asserted Obviousness Rejection of Claims 10-14 and 16-21

In the outstanding Office action, claims 10-14 and 16-21 were rejected under 35 U.S.C. § 103(a) as being unpatentable over the Tanida I reference in view of the Tanida II reference.

Claims 10-14 and 16-21 ultimately depend from independent claim 1, and thus at least similarly distinguish over the Tanida I reference. The basis of how claim 1 distinguishes over the Tanida I reference has been discussed above.

The rejection also relies upon the Tanida II reference assertedly as a teaching of filter technology and imaging system technology. Assuming for the sake of discussion that the interpretations of the Tanida II reference are reasonable, the Tanida II reference does not make up for the deficiencies in the Tanida I reference noted above regarding independent claim 1, and

thus regarding claims 10-14 and 16-21 by dependency. Accordingly, Applicants respectfully request that the rejection of claims 10-14 and 16-21 be favorably reconsidered and withdrawn.

I. Asserted Obviousness Rejection of Claim 15

In the outstanding Office action, claim 15 was rejected under 35 U.S.C. § 103(a) as being unpatentable over the Tanida I reference in view of the Tanida III reference.

Claim 15 depends from independent claim 1, and thus at least similarly distinguishes over the Tanida I reference. The basis of how claim 1 distinguishes over the Tanida I reference has been discussed above.

The rejection also relies upon the Tanida III reference assertedly as a teaching of color filters inserted as parts of optical paths corresponding to macro-pixels. Assuming for the sake of discussion that the interpretation of the Tanida III reference is reasonable, the Tanida III reference does not make up for the deficiencies in the Tanida I reference noted above regarding independent claim 1, and thus regarding claim 15 by dependency. Accordingly, Applicants respectfully request that the rejection of claim 15 be favorably reconsidered and withdrawn.

J. Conclusion

The remaining document cited by the Examiner was not relied on to reject the claims. Therefore, no comments concerning this document are considered necessary at this time.

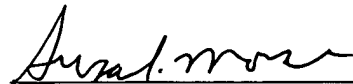
If the Examiner believes that additional discussions or information might advance the prosecution of the instant application, the Examiner is invited to contact the undersigned at the telephone number listed below to expedite resolution of any outstanding issues.

In view of the foregoing amendments and remarks, reconsideration of this application is earnestly solicited, and an early and favorable further action upon all the claims is hereby requested.

Respectfully submitted,

On behalf of DIGITAL OPTICS CORPORATION

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PETITION and
DEPOSIT ACCOUNT CHARGE AUTHORIZATION

This document and any concurrently filed papers are believed to be timely. Should any extension of the term be required, applicant hereby petitions the Director for such extension and requests that any applicable petition fee be charged to Deposit Account No. 50-1645.

If fee payment is enclosed, this amount is believed to be correct. However, the Director is hereby authorized to charge any deficiency or credit any overpayment to Deposit Account No. 50-1645.

Any additional fee(s) necessary to effect the proper and timely filing of the accompanying-papers may also be charged to Deposit Account No. 50-1645.